



CATÓLICA  
LISBON  
BUSINESS & ECONOMICS

# The Capital Structure of European Multinational Corporations

Beatriz Gonçalves

Dissertation written under the supervision of Dr. Ricardo  
Reis

Dissertation submitted in partial fulfilment of requirements for the  
MSc in Finance, at the Universidade Católica Portuguesa, 6<sup>th</sup> June  
2016.

# The Capital Structure of European Multinational Corporations

Beatriz Gonçalves

This paper investigates if there are differences in the capital structure of European Multinational Firms and European Domestic Corporations, and if so, which factors can explain the differences. Additionally, this paper also studies whether European Multinational Corporations which have bigger exposure to the European market have different capital structures than European Multinational Corporations which are more exposed to the Global market (market outside Europe). The result shows, as in the U.S., European Multinational Corporations have lower debt ratios than European Domestic firms. This difference can be explained by several firm-related factors: non-debt tax shields, profitability, age, foreign exchange risk, size and collateral value. When industry effects are considered, the difference in the level of leverage is not statistically significant. This paper proves that European Multinational Corporations have different capital structures considering the markets which they are exposed. European Multinational Corporations which have higher exposure to the European market have higher leverage ratios due to factors such as profitability, free cash flows available and size. The difference remains even if the industry effects are considered. Finally, the determinants of leverage are also analysed and they vary over the sample period for all firms: Domestic Corporations, Multinational Corporations, Multinational Corporations which are more exposed to the European market and Multinational Corporations which are more exposed to the global market.

Este trabalho investiga se existem diferenças na estrutura de capital nas empresas Multinacionais Europeias e nas empresas Domésticas Europeias, e, se essa diferença existe quais são os factores que a conseguem explicar. Este trabalho visa, também, estudar se as empresas Multinacionais Europeias que têm uma maior exposição ao mercado europeu têm uma estrutura de capital igual às empresas Multinacionais com uma forte exposição global (fora da Europa). O resultado mostra que, tal como nos Estados Unidos, as empresas Multinacionais têm um nível de dívida inferior às empresas Domésticas. Este trabalho apresenta quais são os factores específicos que podem explicar essa diferença. Quando são introduzidos os efeitos das indústrias, contudo, esta diferença passa a ser estatisticamente não significativa. Este trabalho prova, ainda, que as Multinacionais têm diferentes estruturas de capitais consoante os mercados em que têm maior exposição. As Multinacionais Europeias com maior exposição à Europa têm um rácio de endividamento maior do que as Multinacionais Europeias com maior exposição aos mercados Globais. Esta diferença persiste mesmo quando são introduzidos os efeitos das indústrias. Finalmente, os factores determinantes na estrutura de capital são também analisados e, estes variam ao longo do período considerado e, também, variam para cada tipo de empresa considerada.

## Table of Contents

Acknowledgments.....	1
1. Introduction & Literature Review .....	2
2. Capital Structure Determinants .....	3
2.1. Agency Theory.....	3
2.2. Trade-Off Theory and Pecking Order Theory.....	4
2.3. Determinants in capital structure.....	5
<b>A. Business Risk</b> .....	5
<b>B. Collateral Value of Assets</b> .....	6
<b>C. Free Cash Flow</b> .....	7
<b>D. Foreign Exchange Risk</b> .....	7
<b>E. Political Risk</b> .....	8
<b>F. Growth</b> .....	9
<b>G. Profitability</b> .....	10
<b>H. Non-Debt Tax Shields</b> .....	10
<b>I. Size</b> .....	11
<b>J. Age</b> .....	11
3. Methodology .....	12
4. Results.....	15
4.1. Industry Dummy .....	30
5. Conclusions .....	30
6. APPENDICES .....	33
6.1. ‘All Sample’ .....	33
6.1.1. Model 1 .....	33
6.1.2. Model 2 and Model 3 .....	34
6.2. MNCs sub-sample and DCs sub-sample .....	35
6.2.1. Model 1 .....	35
6.2.2. Model 4 and Model 5 .....	36
6.3. EU sub-sample and Global sub-sample.....	37
6.3.1. Model 1 .....	37
6.4. Industry .....	38
6.4.1. Model 1 for ‘All Sample’, MNCs and DCs.....	38
6.4.2. ‘All Sample’ .....	39
6.4.2.1. Model 1 .....	39
6.4.2.2. Model 2 .....	40
6.4.3. MNCs sub-sample and DCs sub-sample.....	41
6.4.3.1. Model 1 .....	41

6.4.3.2. Model 4 and 5.....	42
6.5. EU sub-sample and Global sub-sample.....	44
6.5.1. Model 1 .....	44
7. References .....	46
Table 1 Panel A .....	20
Table 1 Panel B .....	21
Table 2.....	22
Table 3.....	23
Table 4.....	24
Table 5.....	25
Table 6.....	29
Table 7.....	333
Table 8.....	344
Table 9.....	355
Table 10.....	366
Table 11.....	377
Table 12.....	388
Table 13.....	39
Table 14.....	400
Table 15.....	411
Table 16.....	422
Table 17.....	433
Table 18.....	444
Table 19.....	455

## Acknowledgments

I would like to thank my mother, my sisters, my nephews, my boyfriend and my friends for all the support they gave me and all the encouraging that I needed at any time.

Also I would like to thank my thesis advisor Professor Ricardo Reis of the Católica Lisbon School of Business and Economics. Professor always helped me with all my doubts and with great suggestions.

I would like to express my sincere thanks to BPI Vida e Pensões, specially my team and my bosses, Dra. Maria Isabel Semião and Dra. Isabel Alexandre Baptista.

This master thesis would be impossible to achieve without the contribution of these persons.

## 1. Introduction & Literature Review

One of the most important topics in corporate finance is how firms finance their operations. Modigliani and Miller studied the capital structure of firms and they developed an extremely well-known theory which says if there are not imperfections in capital markets, such as taxes, bankruptcy costs, transaction costs, symmetry of market information and equivalence in borrowing costs for companies and investors, Modigliani and Miller (1958) concluded that the market value of a company does not depend on its capital structure since debt policy does not matter. Another important proposition of their theory is that the cost of capital is unaffected by capital structure. However, in the reality, there are imperfections in capital markets and thus these conclusions cannot be applied.

Since this article published, researchers have started to undertake several studies in order to find out if there is an optimal capital structure. Empirical evidence shows that capital structure is influenced by several firm-related characteristics, which include growth opportunities, earning volatility, profitability, and non-debt tax shield. (Titman and Wessels, 1988; Smith and Watts, 1992; Gaver and Gaver, 1993; Homaifar, Zietz and Benkato, 1994).

In recent years, an effort has been made to incorporate this issue into the international field. Many researchers studied whether there are differences between the capital structure of Multinational firms (MNCs) and Domestic firms (DCs), and which factors are important to consider when determining the debt level. Several studies have been conducted to evaluate the effect of internationalization on identified capital structure determinants (Shapiro, 1978). Other researches have been made in order to examine if environmental factors such as political risk and exchange rate risk have an impact on the financing decision of a multinational firm (Burgman, 1996). In addition, Lee and Kwok (1988) examined the influence of environmental factors on the firm-related capital structure determinants (agency costs, bankruptcy costs, tax benefits).

Theoretically, many authors claim that multinational companies should display a higher debt ratio when compared to domestic corporations. This comes from the fact that Multinational corporations operate in several economies and as diversification should enhance lower earnings volatility, there would be a lower probability of bankruptcy. Mittoo and Zhang (2008) prove that multinational Canadian corporations have a higher

leverage ratio than domestic firms. Singh and Nejadmalayeri (2004) have also found the same in French multinational firms.

However, the US evidence shows that MNCs have in fact less debt in their capital structures than DCs (Lee, 1986; Fatemi, 1988; Lee and Kwok, 1988; Doukas and Pantzalis, 2003). Additionally, Akhtar and Oliver (2009) have reached the same conclusion in Japanese corporations. Akhtar (2005) has not found any significant differences in leverage between Australian MNCs and DCs.

This paper will empirically examine whether MNCs in five European countries - Portugal, Spain, Germany, France and the United Kingdom - have different capital structure from DCs and, if so which factors could explain that difference. This study also aims to test if MNCs which have a larger exposure to European markets have a different capital structure from MNCs that have a larger exposure to Global markets outside Europe. This last comparison is of particular interest since the European Union is a political-economical union where there is free trade of goods, services, capital, and people. There has been a standardization of laws in the countries which are members of the European Union and there is also a monetary Union.

This paper comprises four sections. The first section briefly reviews previous literature on capital structure. The second section is an explanation of the methodology which has been used. Section three shows the empirical findings regarding this project and discusses the results. Finally, the last section presents a summary of the paper and explains its conclusions.

## 2. Capital Structure Determinants

In this section, I will discuss previous capital structure theories and relevant determinants in decisions regarding debt that past literature has found. Hypotheses will be made and then tested in the next section.

### 2.1. Agency Theory

The agency costs of debt in corporations arise since sometimes shareholders and debtholders do not have the same goals. Shareholders want to increase their wealth at the expense of debtholders' wealth expropriation (Myers, 1977). The conflict can arise from

three areas of financial decision: investment, financing, and dividend distribution. A higher agency cost of debt will lead to a higher cost of debt and consequently lower leverage since bondholders need more resources to monitor the firm. (Mittoo and Zhang, 2005)

Agency costs affect the optimal debt level and these costs can be different in DCs and in MNCs. These include differences in monitoring costs, differing asset structures and international capital and labor market imperfections, which in turn include barriers such as restrictions on the degree of foreign ownership of firms, and direct control on the export and import of capital (Burgman, 1996).

MNCs firms are likely to face higher agency costs than DCs. Burgman (1996) claims that MNCs face higher auditing costs, languages differences, sovereignty uncertainties, and varying legal and accounting systems. Besides that, he also argues that investors face higher informational gaps. Additionally, MNCs have greater access to the international capital markets, which translates into more opportunities for growth when compared to DCs. Myers (1977) argues that firms with higher growth opportunities are likely to face higher agency costs of debt.

Moreover, the agency costs will be higher for MNCs than for DCs, and the agency costs will be lower for MNCs that have more exposure to the European market than for those with Global exposure. This predictions is based on the close economic and business environment in the European Union, which makes it easier for bondholders to gather information on MNCs with European exposure.

## 2.2. Trade-Off Theory and Pecking Order Theory

Debt presents advantages but also disadvantages. Trade- Off theory argues that a firm balances bankruptcy costs against tax advantages of debt (Chen, Cheng and Kim, 1997), based on this adjustment each firm will find its optimal level of debt. Due to earnings diversification, MNCs should have lower bankruptcy costs. Therefore, according to this statement, MNCs should have more debt than DCs.

Pecking order theory argues that when firms choose to finance themselves they will firstly use internal cash flows, then they will raise debt and finally they will issue equity. Following the pecking order theory, a firm which displays a low business risk has a lower

information asymmetry and the level of leverage should be lower. (Akhtar and Oliver, 2009). Moreover, considering that MNCs should have lower business risk, MNCs should have lower debt levels than DCs.

### 2.3. Determinants in capital structure

#### A. Business Risk

Business risk is the risks associated with the firm's future operations. There are many factors that can affect this variable, for instance, economic context, sales volume, input cost, among others. Additionally, business risk can be perceived as the expected costs of financial distress and bankruptcy costs faced by a firm.

From previous studies, it is possible to conclude that business risk has an impact on the decision of a capital structure. Many authors defend an inverse relation between business risk and the level of leverage. In other words, firms with higher business risk should have lower debt than those which have lower business risk.

Since debt is something that firms obligatorily have to pay, firms with higher business risk - which are associated with higher volatility in their earnings - may not be able to meet that obligation at all times. On the other hand, debtholders know that these firms have a higher probability to default so they will require a higher rate of return, leading to a very costly way of financing.

The European Union follows a classical tax system, so firms have an incentive to issue debt instead of shares in order to take advantage of tax saving. Akhtar and Oliver (2009) argue that higher levels of business risks reduces the profitability of the interest tax shield which is going to be used and thus increases the risk of bankruptcy.

According to many different authors, MNCs can benefit from the international diversification and thus reduce the operational risk, which contributes to raising debt ratios. It is often argued that the international diversification of earnings should enable MNCs to sustain a higher level of debt than DCs, without increasing their default risk (Eiteman, Stonehill & Moffett, 1998). MNCs are expected to have lower bankruptcy costs when compared to DCs due to their ability to diversify across markets which are not perfectly correlated. (Burgman, 1996)

Due to their ability to internationally diversify, MNCs are expected to have lower volatility than DCs. With that in mind, MNCs are expected to have higher debt ratios than DCs.

However, international diversification has its negative aspects since it can contribute to higher agency costs due to international dispersion, which leads to a higher rate of return demanded by bondholders.

$$\mathbf{Business\ Risk}_{i,t} = \frac{\sigma_i}{\left(1 + \frac{D_{i,t}(1 - t_c)}{E_{i,t}}\right)}$$

Where  $\sigma_i$  is the Standard Deviation of equity returns for firm  $i$  over the previous 52 weeks,  $D_{i,t}$  is the book value of total debt at the end of the year  $t$  for firm  $i$ ,  $E_{i,t}$  is the market capitalization of equity at the end of year  $t$  for firm  $i$  and  $t_c$  is the corporate tax rate.

## **B. Collateral Value of Assets**

Another important factor that affects the capital structure of a firm is the type of assets that it has. Firms with high collateral assets have greater ability to negotiate debt than those with high intangible assets or without collateral assets. Tangible assets are seen as valuable for debtholders in case of bankruptcy. Akhtar and Oliver (2009) argue that the moral hazard risks are reduced when the firm offers tangible assets as collateral and this constitutes a positive signal to the debtholders. Furthermore, it is possible to predict that there is a positive relationship between leverage and collateral value of assets.

On the other hand, Akhtar and Oliver (2009) also point out that tangible assets lower information asymmetries, thus making equity less costly for firms to raise and so leverage ratios would be lower.

Regarding tangible assets, MNCs probably have a lower proportion of these assets due to political risk exposure, in order to avoid big losses in case of expropriation or nationalization. Since there are two different ways in which collateral value can influence the capital structure of a firm, it is unknown whether MNCs will have more or less collateral assets than DCs, and if this variable will have a positive or negative impact on leverage ratios.

$$\text{Collateral Value of Assets}_{i,t} = \frac{\text{Book Value of tangible assets}_{i,t}}{\text{Book value of total assets}_{i,t}}$$

### C. Free Cash Flow

Profitable firms are generally less likely to face bankruptcy and place a higher value on tax deduction of interest payments than less profitable firms. This provides incentives to use more debt than equity. Firms with great amount of excess cash may face conflicts between shareholders and debtholders - agency costs. Debt can be seen as a discipline method for managers since it is a periodical obligation that managers are forced to meet. Bondholders can declare that a company is in default and lead it to bankruptcy. In conclusion, debt reduces the agency cost of free cash flows by reducing the cash flow available for spending at the discretion of managers (Stulz, 1990; Harris and Raviv, 1991).

Therefore, it is expected to see a positive relation between profitable firms and level of leverage.

However, pecking order theory argues that a firm that can generate excess cash will use internal resources to finance new projects and only then will it use external sources to obtain the financing needed. Moreover, under pecking order theory there is a negative relation between free cash flows and leverage.

MNCs have better opportunities to earn more profit when compared to DCs mainly due to having access to more than one source of earnings and a better chance to exploit favourable business conditions in particular countries ( Bartlett and Ghoshal, 1989; Chkir and Cosset, 2001).

$$\text{Free Cash Flows}_{i,t} = \frac{\text{EBIT}_{i,t} + \text{Depreciations}_{i,t} + \text{Amortizations}_{i,t} - \text{Tax}_{i,t}}{\text{Book value of total assets}_{i,t}}$$

Where  $\text{EBIT}_{i,t}$  is the earnings before interest and taxes for firm i in year t and  $\text{Tax}_{i,t}$  is the total tax paid for firm i in year t.

### D. Foreign Exchange Risk

Krainer (1972) concludes that M&M principles cannot be applied in international situations. All firms, domestic and multinational, are exposed to the foreign exchange risk. This risk is associated with changes in different currency, which has implications on

demand, supply, price, among other factors. The more sensitive a firm's cash flows and earnings are to foreign exchange rate fluctuations, the lower the expected level of debt (Burgman, 1996). In fact, Burgman concluded that foreign exchange rate is a relevant factor when it comes to determining the level of leverage of a firm.

Traditionally, it is argued that MNCs are more exposed to exchange rate risk and the expected bankruptcy cost would be greater, thus MNCs should display a lower debt level. However, Burgman (1996) claims that MNCs with a higher economic exchange rate exposure should have higher debt levels. Economic exchange rate risk is difficult to hedge. Nonetheless, MNCs have a powerful tool to use. Burgman (1996) explains that if an MNC has foreign currency denominated income from its foreign affiliates, it can hedge the exchange risk on this income by raising foreign currency-denominated capital. Since it is generally easier (and cheaper) for MNCs to issue debt than equity in foreign markets, they may increase their foreign debt in an effort to hedge their economic exchange rate exposure.

In conclusion, although MNCs may have greater exposure to foreign exchange risks, the risks may be hedged. Obviously, DCs also have the opportunity to hedge any foreign exchange risks. However, evidence of economies of scale in risk management, particularly the use of derivatives, may result in limited derivative use by DCs (Smith and Stulz, 1985; Nance et al., 1993; Martin and Mauer, 2004).

Therefore, it is possible to predict that MNCs should have a greater exposure to economic exchange rate risk than DCs.

This variable is extremely difficult to measure in European Union, due to the existence of the Monetary Union, and since this work is based on firms' disclosures, it was selected a proxy:

$$\textit{Foreign Exchange Risk}_{i,t} = \frac{\textit{Total Foreign Sales}_{i,t}}{\textit{Total Sales}_{i,t}}$$

#### **E. Political Risk**

Political risk is the probability of there being political events which will have a negative impact on the firm's operations. This risk includes the expropriation of assets, trade controls, institutional ineffectiveness, threat of war, social unrest, disorderly transfers of power, political violence, international disputes, regime changes, and regulatory

restrictions (Jodice, 1985). A firm may face political risk due to political instability in a country.

Akhtar and Oliver (2009) conclude that firms with significant foreign financing, foreign suppliers or customers, or other international transactions or assets, are relatively exposed to adverse changes in currency controls, capital flow barriers, and other laws and regulations that constitute political risk. Thus, MNCs will face higher political risk and it is expected that they have less leverage due to a greater probability of wealth loss. MNCs with greater exposure to European markets are expected to have less political risk than MNCs with Global exposure, since European Union members have relatively stable democracies in their countries.

However, according to Burgman (1996), this type of risk is very difficult to measure and to hedge. One way to mitigate this risk is to use debt from the local market. Hence, it can be argued that MNCs that operate in riskier countries should be expected to have higher debt ratios.

$$\mathbf{Political Risk}_{i,t} = \sum \frac{I_{c,t}}{\sum_{i \in R} I_{c,t}} * \lambda_i$$

Where  $I_{c,t}$  is the revenue of a company,  $c$ , from a particular country,  $t$  and  $\lambda_t$  is the value that country  $t$  has on an Economic Freedom Index. This economic freedom index is from The Heritage Foundation in partnership with Wall Street Journal. This index is used as a proxy for the political risk. The maximum value of political risk is 100 meaning the lowest level of political risk and the minimum value is 0 which represents the riskiest political risk ranking.

## **F. Growth**

Myers (1977) argues that agency problems are particularly serious for assets which give the firm the option to undertake growth opportunities in the future. The underinvestment (debt overhang) problem (Myers, 1977) argues that with fixed claims in a firm's capital structure, debtholders have a senior claim over shareholders to cash flows. Sometimes, undertaking positive net present value (NPV) projects could reduce share value. Managers, working as intermediary for shareholders, have incentives to reject positive NPV projects and this rejection leads to underinvestment. The existence of underinvestment problems implies that firms with higher growth opportunities should use less debt.

Since MNCs are perceived to have more growth opportunities, according to this, MNCs will have higher agency costs and thus debt ratios will be lower.

Additionally, Kim and Lyn (1986) explain that MNCs possess monopolistic advantages that enable them to outperform local companies in host countries, and these advantages are reflected on the value of future growth options of the company. Finally, Akhtar and Oliver (2009) argues that firms with more growth options are expected to have higher information asymmetries, and according to pecking order theory these firms are expected to have higher leverage.

$$Growth_{i,t} = \frac{MV_{i,t}}{BV_{i,t}}$$

Where  $MV_{i,t}$  is the market value of equity for firm  $i$  in year  $t$  and  $BV_{i,t}$  is the book value of equity for firm  $i$  in year  $t$ .

### **G. Profitability**

Profitable firms are less likely to face bankruptcy than less profitable firms. Myers' (1984) pecking order theory of capital structure shows that if a firm is profitable then it is more likely to finance projects using internal resources rather than external sources. Hence, more profitable firms are expected to hold less debt, since it is easier and more cost effective to finance internally. Under Pecking order theory, it is expected to see a negative relation between profitability and leverage.

Since MNCs have access to more than one source of earnings and a better chance of having favourable business conditions in particular countries, they have more opportunities to be more profitable when compared to DCs ( Barlett & Ghoshal, 1989). All things considered, it is easy to predict that MNCs are probably more profitable than DCs, and therefore MNCs are expected to have relatively lower debt levels than DCs.

$$Profitability_{i,t}$$

$$= \text{Average net income to total sales for the past 4 years for firm } i$$

### **H. Non-Debt Tax Shields**

Taxation and its relation to capital structure varies according to the tax regime. Under the European Union classical tax system, the tax deductibility of interest is expected to induce a preference for debt.

These non-debt tax shields compete with interest as a tax deduction. Firms with higher non - debt tax shields are expected to have lower leverage, as the tax benefits of leverage are relatively less valuable.

MNCs should be better prepared than DCs to exploit taxation regulations across different countries than DCs for the purpose of reducing their tax liabilities (Homaifar et al., 1998). Thus, MNCs should have higher levels of non-debt tax shields, leading to lower levels of leverage when compared to DCs.

$$\text{Non - Debt Tax Shield}_{i,t} = 1 - \left( \frac{\text{TAX}_{i,t}}{\text{Total Book value of assets}_{i,t}} \right)$$

### **I. Size**

Firm size is a positive determinant of capital structure (Agrawal and Nagarajan, 1990; Rajan and Zingales, 1995; Chkir and Cosset, 2001). Size should have a positive relation to leverage since larger firms are more diversified and thus less likely to default.

However, Akhtar and Oliver (2009) argues that larger firms are expected to have lower information asymmetries, thus making equity issues more attractive. This implies a negative relation between size and leverage.

In conclusion, MNCs are expected to be larger than DCs and therefore they should therefore have higher leverage ratios.

$$\text{Size}_{i,t} = \text{LN}(\text{Book Value of total assets}_{i,t})$$

### **J. Age**

Age is also relevant to capital structure choice. Older firms are expected to face lower debt-related agency costs (Frank and Goyal, 2009). Lower debt-related agency costs result in a greater access to debt, and consequently a higher leverage ratio for older firms.

In addition, older firms generally also face lower default risks due to more stable earnings, which also implies a higher leverage ratio for older firms.

Akhtar and Oliver (2009) explain that age may be a proxy for lower information asymmetries. Equity is very sensitive to information asymmetry, thus according to this with less information asymmetry older firms are expected to have less leverage since equity is cheaper.

Since there are conflicting theories regarding this factor, it is not clear whether age has a positive or negative impact on leverage. However, MNCs are expected to be older than DCs since firms are generally likely to begin as DCs and expand over time to become multinationals. (Akhtar and Oliver, 2009).

$$Age_{i,t} = LN(\text{age of firm } i, \text{ in years from date of incorporation})$$

### 3. Methodology

For this project, 368 different companies, which are publicly traded in Portugal, Spain, France, the United Kingdom (UK) and Germany, were selected. Companies in these countries were chosen since they are members of European Union and the UK, Germany and France play a major role in the European Union markets and Portugal and Spain make it possible to analyse less liquid markets. Some firms were excluded from the sample, all the banking and financial services industry due to the fact this industry has some specifications and other requirements, and also they were eliminated some firms that have less than 3 years of observations. Finally, others firms were excluded from the sample because they have negative values regarding growth variable.

Data were extracted from 1997 to 2014 so that the factors could be analysed from 2001 onwards, after the dot.com bubble. This timeframe was divided into two different samples, one from 2001 to 2007 and another from 2008 to 2014. In 2007, when Lehman Brothers collapsed, a major world financial crisis started. This division was made to understand if there are differences in the determinants which affect the leverage ratio before and after the crisis.

After extracting the data from Thomson Reuters, it was important to identify which companies in this group were Multinational companies and which ones were Domestic companies. Multinational companies were defined as the firms which have more than 30% of foreign sales and more than 10% of foreign assets. This last factor is important in order to avoid considering a firm to be Multinational only when it has a high percentage of exportation. After all things considered, the sub-sample of Multinational firms has 300 firms and the sub-sample of Domestic firms has 67 firms.

The Multinational sample was divided into firms which are considered to have a global exposure and those which have Europe exposure. According to the IAS 14, it was

established that firms with more than 25% of total sales outside Europe have Global exposure. Firms which do not fulfil this criterion have European exposure.

The purposes of this work is to investigate if there are differences in capital structure of MNCs and DCs and between MNCs which have Global exposure and MNCs with European exposure. The most important factor to clarify is leverage. In the liabilities side of a firm's balance sheet it is possible to find short-term debt and medium to long-term debt. For this paper, leverage of the firm is defined as:

$$\mathbf{Leverage}_{i,t} = \frac{\mathbf{Long\ Debt}_{i,t}}{\mathbf{Long\ Debt}_{i,t} + \mathbf{E}_{i,t}}$$

Where  $\mathbf{Long\ Debt}_{i,t}$  is the long-term debt of the firm i, in the year t and  $\mathbf{E}_{i,t}$  is the market capitalization of equity of firm i, in the end of year t.

As discussed in the previous section, there are factors that might have an impact on the capital structure of a firm: Business risk (BR), Collateral Value of assets (CV), Free cash flows (FCF), Foreign exchange risk (FR), political risk (PR), Growth opportunities (Growth), Profitability (Prof), Non-debt tax shields (NDTS), Size and Age. These factors are all used in several regressions to examine their significance when determining debt ratio. Besides these firm-related factors, a Time (Time) variable was also included to verify if a time trend is also significant. A dummy variable in order to accommodate the countries' effects was included too (Country).

To study the capital structure of firms, several models were constructed:

Model 1:  $\mathbf{Leverage} = \beta_1 \mathbf{Free\ Cash\ Flows} + \beta_2 \mathbf{Collateral\ Value} + \beta_3 \mathbf{Profitability} + \beta_4 \mathbf{Business\ Risk} + \beta_5 \mathbf{Age} + \beta_6 \mathbf{Size} + \beta_7 \mathbf{Non\ Debt\ Tax\ Shield} + \beta_8 \mathbf{Foreign\ Ratio} + \beta_9 \mathbf{Political\ Risk} + \beta_{10} \mathbf{Time} + \sum_4^1 \mathbf{Country} + \alpha$

Model 2:  $\mathbf{Leverage} = \beta_1 \mathbf{Free\ Cash\ Flows} + \beta_2 \mathbf{Collateral\ Value} + \beta_3 \mathbf{Profitability} + \beta_4 \mathbf{Business\ Risk} + \beta_5 \mathbf{Age} + \beta_6 \mathbf{Size} + \beta_7 \mathbf{Non\ Debt\ Tax\ Shield} + \beta_8 \mathbf{Foreign\ Ratio} + \beta_9 \mathbf{Political\ Risk} + \beta_{10} \mathbf{Time} + \beta_{11} \mathbf{MNC} + \sum_4^1 \mathbf{Country} + \alpha$

Model 3: 
$$\text{Leverage} = \beta_1 \text{Free Cash Flows} + \beta_2 \text{Collateral Value} + \beta_3 \text{Profitability} + \beta_4 \text{Business Risk} + \beta_5 \text{Age} + \beta_6 \text{Size} + \beta_7 \text{Non Debt Tax Shield} + \beta_8 \text{Foreign Ratio} + \beta_9 \text{Political Risk} + \beta_{10} \text{Time} + \beta_{11} \text{MNC} + \beta_{11} \text{MNC} * \text{Free Cash Flows} + \beta_{12} \text{MNC} * \text{Collateral Value} + \beta_{13} \text{MNC} * \text{Profitability} + \beta_{14} \text{MNC} * \text{Business Risk} + \beta_{15} \text{MNC} * \text{Age} + \beta_{16} \text{MNC} * \text{Size} + \beta_{17} \text{MNC} * \text{Non Debt Tax Shield} + \beta_{18} \text{MNC} * \text{Foreign Ratio} + \beta_{19} \text{MNC} * \text{Political Risk} + \sum_4^1 \text{Country} + \alpha$$

Model 4: 
$$\text{Leverage} = \beta_1 \text{Free Cash Flows} + \beta_2 \text{Collateral Value} + \beta_3 \text{Profitability} + \beta_4 \text{Business Risk} + \beta_5 \text{Age} + \beta_6 \text{Size} + \beta_7 \text{Non Debt Tax Shield} + \beta_8 \text{Foreign Ratio} + \beta_9 \text{Political Risk} + \beta_{10} \text{Time} + \beta_{11} \text{Global} + \sum_4^1 \text{Country} + \alpha$$

Model 5: 
$$\text{Leverage} = \beta_1 \text{Free Cash Flows} + \beta_2 \text{Collateral Value} + \beta_3 \text{Profitability} + \beta_4 \text{Business Risk} + \beta_5 \text{Age} + \beta_6 \text{Size} + \beta_7 \text{Non Debt Tax Shield} + \beta_8 \text{Foreign Ratio} + \beta_9 \text{Political Risk} + \beta_{10} \text{Time} + \beta_{11} \text{Global} + \beta_{11} \text{Global} * \text{FCF} + \beta_{12} \text{Global} * \text{Collateral Value} + \beta_{13} \text{Global} * \text{Profitability} + \beta_{14} \text{Global} * \text{Business Risk} + \beta_{15} \text{Global} * \text{Age} + \beta_{16} \text{Global} * \text{Size} + \beta_{17} \text{Global} * \text{Non Debt Tax Shield} + \beta_{18} \text{Global} * \text{Foreign Ratio} + \beta_{19} \text{Global} * \text{Political Risk} + \sum_4^1 \text{Country} + \alpha$$

Model 1 was used for the entire sample and for each sub sample (MNC, Domestic, Global exposure and European exposure) in order to find the most important factors that have an impact on the decision of leverage in a firm. Model 2 was used to investigate whether capital structure is different in multinational firms and domestic firms. In order to do so a dummy variable was introduced. After concluding that there is a difference in the capital structure among firms, Model 3 is used in order to identify the factors that can explain the difference between domestic firms and multinational firms.

Model 4 and Model 5 are only used in the sub-sample of multinational firms. In Model 4 a dummy variable was incorporated, Global, which is ‘one’ if the firm has more exposure

to Global markets outside Europe and ‘zero’ if the MNC has more than 75% of its assets in Europe. This dummy is used to see the effects of a global exposure. Model 5 is a regression to find the factors which explain the difference between capital structure of multinational firms with a high global exposure or multinational firms with highly European exposure.

#### 4. Results

This study was conducted with 367 European companies that are listed in several countries. In this sample there are 67 companies that are qualified as domestic firms and 300 that can be seen as Multinational corporations.

Table 1 – Panel A and Panel B provides the information regarding statistics which descriptive the firm-related variables that are used in the Models throughout this project. In Panel A, firstly, on average DCs have more leverage than MNCs. This result is consistent with previous results from US and Japanese evidence. This is extremely interesting since it might allow us to assume that there are differences in the capital structure of Multinational corporations and domestics in Europe, and in addition, DCs have more leverage than MNCs. As it was expected, on average, MNCs are bigger than DCs and they are also older. Another conclusion, which is possible to make by analysing table 1 is that on average, MNCs are more profitable firms and free cash flows seems to be higher for MNCs. However, DCs face higher growth opportunities. Regarding foreign exchange risk, MNCs display a higher value on average than European DCs, despite the fact that political risk is higher for DCs. Business risk, on average, has the same value for all types of firms. Non-debt tax shield also has similar values for European DCs and MNCs. Collateral value of assets seems to be higher for DCs than MNCs.

In Panel B, it is possible to compare MNCs with Europe exposure and MNCs with Global exposure. On average, MNCs with European exposure have more leverage than MNCs with Global exposure. From this value, it is possible to assume that there is a difference between capital structures in MNCs depending on the market they have are more exposed. On average, MNCs with Europe exposure are more profitable, they also have more assets to use as collateral and they display lower foreign exchange risk. However, MNCs with Global exposure, on average, have higher free cash flows and growth opportunities.

Since there are many different factors that were tested in the OLS regression of each model, it is important to investigate if there are multicollinearity problems. Table 2

presents the correlation matrix between independent variables but also with leverage. All correlations are below 50% therefore there are not problems with multicollinearity in any models.

Table 3 provides results for the regression of Model 1 for 'All sample' and for MNCs and DCs separately. Wald Test, which is also present in table 3, shows that at least one coefficient of the model is different from zero for all groups analysed and  $R^2$  shows that the model can explain a good portion of leverage. Considering the 'All sample' of 367 companies and during the all sample period, it is possible to understand that size, business risk, non-debt tax shield, growth, profitability and the passage of time is highly significant in determining the of leverage of the firm. Collateral value is also significant, at 5% level.

Table 3 indicates that business risk is significant at 1% and negative for the all companies analyzed, MNCs and DCs, and for the MNCs sub-sample. However, business risk is not significant for DCs. This result suggests that MNCs with higher business risks will have less debt. Companies with higher business risk, usually associated with higher volatility of earnings, face a higher probability of bankruptcy, which leads to a higher cost of debt and, as a consequence, less leverage in the capital structure. This result is consistent with Agency Costs Theory.

Collateral value of assets is significant for all companies, at 5% for MNC at 1% level and finally for DCs at 10% level. However, MNCs display a positive sign in this variable. In other words, MNCs that have more tangible assets will have more debt, since there are less bankruptcy costs. This result is consistent with Rajan and Zingales (1995). However, European DCs display a negative coefficient, which means that firms with more tangible assets will have less leverage ratios. As said in previous sections, firms with more tangible assets have lower asymmetry of information and equity will probably be cheaper to raise than debt. This could be one possible explanation for this negative coefficient for DCs in collateral value.

From table 3, it is possible to see that free cash flow is not significant for either DCs or MNCs. This result suggests that this variable is not able to explain capital structure of a firm in Europe, despite of previous empirical evidence found in other countries. However, Akhtar and Oliver (2009) showed that for Japanese companies this variable is also not significant to explain the capital structure.

Foreign exchange risk is not significant for all the groups of firms considered. For DCs it is not significant. This result is not surprising since domestic firms have lower exposure to other economies, so exchange risk is not one of the biggest concerns these firms face. However, MNCs display a positive relation to foreign exchange risk, at 1% level, because, as previously said, MNCs can hedge this risk by exploiting international capital markets. Additionally, debt is usually cheaper than equity. Moreover, leverage ratios will be higher in order to hedge the foreign exchange risk.

Political risk is not a significant variable for leverage in either group that was tested. It is not surprising that this variable is not significant. For MNCs, Lee and Kwok (1988) argue that MNCs may hedge political risks by borrowing from the local market, and expected losses may be offset by an expected reduction in local debt liability.

Table 3 also provides the results for the growth variable. It is significant for MNCs, DCs and even when the 'all sample' is considered, at 1%. As expected, this variable has negative sign for all samples: European firms with higher growth opportunities will have less leverage ratios. This is consistent with previous literature. For instance, Akhtar and Oliver (2009) have reached the same conclusion regarding Japanese MNCs. This result is also consistent with agency theory since if a firm has more opportunities to growth it is harder to measure the firm value and bankruptcy costs for debt holders.

Another variable is profitability, which is not significant for DCs but it is a highly important factor regarding leverage ratio for MNCs. For these corporations it is negative and significant at 1%. This result for profitability supports the pecking order theory of Myers (1977), which predicts that a leverage will be negatively related to the profitability. A profitable firm will choose in the first place internal cash to finance new projects.

Non-Debt Tax Shields are significant at 1% for the 'all sample'. However they are irrelevant for DCs. Akhtar (2005), also found that for Australian DCs, Non-Debt Tax Shields are irrelevant. For MNCs corporations they are also significant, at 1%, and they reveal a positive coefficient. Contrary to what was expected, higher non-debt tax shield also contributes to higher leverage ratios.

Size is highly significant for all groups analysed, at 1%. This variable has a positive relationship with leverage ratios, supporting the Trade-Off theory, since larger firms in size should have lower bankruptcy costs. On the other hand, Age is irrelevant for all groups analysed. The variable that analyses the time trend is significant for MNCs and

for the sample that takes into account all the companies (MNCs and DCs), at 1%, and it is negative. During this period, 2001-2014, companies have been trying to deleverage.

After this analysis, although past literature argues that all of these factors have an impact on the capital structure of a firm, Table 3 proves that for European companies (MNCs and DCs together) some factors are not relevant when determining of capital structure. Only size, business risk, collateral value of assets, non-debt tax shield, profitability, growth, and time are significant. However, for MNCs the factors that can influence the leverage ratio of a firm are different: profitability, foreign exchange risk, size, business risk, collateral value of assets, non-debt tax shields, growth, and time. For DCs only growth, size, and collateral value of assets are important to decide the value of leverage.

In order to recognize the differences between the decision of leverage before the latest financial crisis and after the financial crisis the sample was divided into two periods, one focusing on 2001 until 2007 and the other focusing on 2008-2014.

Considering the all sample of companies, before 2008 size, business risk, collateral value, non-debt tax shields, growth, and the passage of time was relevant to determine the leverage of the firm. After 2008, the same factors were important; however profitability, at 1% level and with negative coefficient, also started to be important to take into consideration regarding their capital decisions. After the crisis it became harder and costlier to finance externally, therefore profitable firms started using their internal cash to finance new projects. Also foreign exchange risk becomes significant, at 10% level, with a negative coefficient. European firms, after the financial crisis with higher exposure to other markets will have less debt in their balance sheet.

Only taking into consideration the European DCs, before the world financial crisis, the most relevant factors in the determination of leverage were, at 1% level of significance, size, growth and profitability. Larger domestic firms have more debt than smaller firms, firms with potential growth have less leverage, and finally companies that are more profitable have less debt. After 2008, the capital structure of firms suffered some changes and there are now different factors influencing the decision regarding leverage ratios. Size, business risk, time, and growth are significant at 1% level. As time goes by, firms are deleveraging; when business risk increases, debt decreases, and firms with higher growth opportunities have less debt. Considering that business risk only became significant after the financial crisis, it is interesting that debtholders are now more

skeptical about investments. Profitability, which is significant at 5%, has a negative coefficient, which explains how domestic firms with higher profitability are trying to deleverage and finance their new projects with internal resources, probably due to the increase in cost of debt and equity.

The same approach was made for MNCs. Before 2008, free cash flows are significant at 10% with negative sign, however after the crisis they become irrelevant. On the other hand, profitability is not significant at any level before the financial crisis, so it has no impact on the debt level of the firm. However, after 2008 profitability is an important factor in the decision- making of leverage. It is significant at 5% and negative. It is consistent with the pecking order theory, as previously said. Additionally, foreign exchange risk became not significant after the world financial crisis in 2007. Growth, size, business risk, collateral value, non-debt tax shield, time are also important and significant to determine leverage in a multinational company after and before the crisis.

All European Firms					MNCs					DCs				
Variable	Mean	Std. Dev.	Min	Max	Variable	Mean	Std. Dev.	Min	Max	Variable	Mean	Std. Dev.	Min	Max
<i>Leverage</i>	0.24	0.22	0.00	1.00	<i>Leverage</i>	0.24	0.21	0.00	0.95	<i>Leverage</i>	0.26	0.26	0.00	1.00
<i>FCF</i>	0.16	0.80	-2.28	30.88	<i>FCF</i>	0.16	0.86	-1.09	30.88	<i>FCF</i>	0.15	0.37	-2.28	6.06
<i>Growth</i>	2.50	3.00	0.00	99.72	<i>Growth</i>	2.38	2.66	0.00	99.72	<i>Growth</i>	3.05	4.22	0.00	36.42
<i>Prof</i>	0.11	0.76	-3.57	26.55	<i>Prof</i>	0.12	0.82	-2.00	26.55	<i>Prof</i>	0.07	0.38	-3.57	1.97
<i>Age</i>	3.27	1.01	0.00	5.85	<i>Age</i>	3.30	1.01	0.00	5.85	<i>Age</i>	3.16	0.98	0.00	4.80
<i>FR</i>	0.56	0.29	0.00	1.00	<i>FR</i>	0.65	0.24	0.00	1.00	<i>FR</i>	0.17	0.20	0.00	1.00
<i>Size</i>	21.37	2.10	16.79	27.46	<i>Size</i>	21.54	2.15	16.79	27.46	<i>Size</i>	20.52	1.60	17.14	24.86
<i>PR</i>	64.81	10.94	2.72	98.98	<i>PR</i>	63.84	10.97	2.72	98.98	<i>PR</i>	69.43	9.52	23.72	89.51
<i>BR</i>	0.04	0.03	0.00	0.47	<i>BR</i>	0.04	0.03	0.00	0.47	<i>BR</i>	0.04	0.04	0.00	0.44
<i>CV</i>	0.25	0.20	-0.61	0.95	<i>CV</i>	0.24	0.19	-0.61	0.95	<i>CV</i>	0.27	0.24	0.00	0.94
<i>NDTS</i>	0.98	0.06	0.28	2.34	<i>NDTS</i>	0.98	0.05	0.37	2.34	<i>NDTS</i>	0.98	0.08	0.28	2.34

*Table 1 Panel A - Descriptive Statics.* This table reports the descriptive Statics of all the independent variables that are going to be used in the models stated in the previous section. In this table there are three different groups with their descriptive statics: All European Firms that represent all the companies considered in the five countries selected, 367 corporations, MNCs corresponds to all firms that are considered to be Multinational Firms, firms which have more than 10% of foreign assets and 30% of foreign sales, in total there are 300 MNCs, finally DCs is domestic corporations and it has 67 companies. Leverage is long term debt divided by the sum of long term debt with market capitalization of equity, FCF is free cash flows, which is calculated as the ratio of the sum of EBIT, depreciations and amortizations less paid taxes and book value of total assets; Growth variable is measured as the book-to-market ratio, Prof is Profitability of a firm is computed as an average of net income to total sales in the last four years; Age is the logarithm of number of years since the date of incorporation; FR stands for Foreign Exchange Risk which is the ratio of total foreign sales and total sales; Size is the logarithm of total assets; Pr is Political Risk which is calculated as the multiplication of the country's score in the economic freedom and the weight of sales in the country in total sales and then compute the same for all countries and sum; BR is considered to be Business Risk that is the standard deviation of the previous 52 weeks scaled by one plus the ratio of total debt deducted by taxes and Market capitalization.; finally NDTS is Non-debt Tax Shields and it is computed as one minus taxes paid scaled by total book value of assets. In this table there are information regarding Mean, Standard Deviation (STD. DEV), Minimum values and also maximum values. This is table has data from 2001-2014.

Variable	MNCs				Variable	Europe Exposure				Variable	Global Exposure			
	Mean	Std. Dev.	Min	Max		Mean	Std. Dev.	Min	Max		Mean	Std. Dev.	Min	Max
<i>Leverage</i>	0.24	0.21	0.00	0.95	<i>Leverage</i>	0.27	0.22	0.00	0.95	<i>Leverage</i>	0.23	0.20	0.00	0.95
<i>FCF</i>	0.16	0.86	-1.09	30.88	<i>FCF</i>	0.11	0.07	-0.06	0.48	<i>FCF</i>	0.18	1.03	-1.09	30.88
<i>Growth</i>	2.38	2.66	0.00	99.72	<i>Growth</i>	2.30	3.55	0.00	99.72	<i>Growth</i>	2.42	2.19	0.00	25.31
<i>Prof</i>	0.12	0.82	-2.00	26.55	<i>Prof</i>	0.22	1.48	-1.08	26.55	<i>Prof</i>	0.08	0.21	-2.00	1.74
<i>Age</i>	3.30	1.01	0.00	5.85	<i>Age</i>	3.22	1.06	0.00	5.40	<i>Age</i>	3.33	0.99	0.00	5.85
<i>FR</i>	0.65	0.24	0.00	1.00	<i>FR</i>	0.56	0.22	0.00	1.00	<i>FR</i>	0.68	0.23	0.00	1.00
<i>Size</i>	21.54	2.15	16.79	27.46	<i>Size</i>	21.34	2.20	16.79	26.70	<i>Size</i>	21.63	2.12	16.83	27.46
<i>PR</i>	63.84	10.97	2.72	98.98	<i>PR</i>	65.34	9.28	13.34	98.98	<i>PR</i>	63.22	11.54	2.72	98.86
<i>BR</i>	0.04	0.03	0.00	0.47	<i>BR</i>	0.03	0.03	0.00	0.32	<i>BR</i>	0.04	0.03	0.00	0.47
<i>CV</i>	0.24	0.19	-0.61	0.95	<i>CV</i>	0.27	0.20	0.00	0.91	<i>CV</i>	0.23	0.18	-0.61	0.95
<i>NDTS</i>	0.98	0.05	0.37	2.34	<i>NDTS</i>	0.98	0.07	0.37	2.34	<i>NDTS</i>	0.98	0.04	0.41	1.72

*Table 1 Panel B - Descriptive Statics.* This table reports the descriptive Statics of all the independent variables that are going to be used in the models stated in the previous section. In this table there are three different groups with their descriptive statics: MNCs corresponds to all firms that are considered to be Multinational Firms, firms which have more than 10% of foreign assets and 30% of foreign sales, in total there are 300 MNCs, Europe Exposure are all Multinational Corporations which have bigger exposure to the European Market, more than 75% of total sales inside Europe, in total there are 90 companies, finally, Global exposure comprehends all the Multinational Corporations that have bigger exposure to other markets without Europe, less than 25% of total sales are in Europe, in total there are 210 companies in this group. Leverage is long term debt divided by the sum of long term debt with market capitalization of equity, FCF is free cash flows, which is calculated as the ratio of the sum of EBIT, depreciations and amortizations less paid taxes and book value of total assets; Growth variable is measured as the book-to-market ratio, Prof is Profitability of a firm is computed as an average of net income to total sales in the last four years; Age is the logarithm of number of years since the date of incorporation; FR stands for Foreign Exchange Risk which is the ratio of total foreign sales and total sales; Size is the logarithm of total assets; Pr is Political Risk which is calculated as the multiplication of the country's score in the economic freedom and the weight of sales in the country in total sales and then compute the same for all countries and sum; BR is considered to be Business Risk that is the standard deviation of the previous 52 weeks scaled by one plus the ratio of total debt deducted by taxes and Market capitalization.; finally NDTS is Non-debt Tax Shields and it is computed as one minus taxes paid scaled by total book value of assets. In this table there are information regarding Mean, Standard Deviation (STD. DEV), Minimum values and also maximum values. This is table has data from 2001-2014.

	<i>FCF</i>	<i>Growth</i>	<i>Prof</i>	<i>Age</i>	<i>FR</i>	<i>Size</i>	<i>PR</i>	<i>BR</i>	<i>CV</i>	<i>NDTS</i>
<i>FCF</i>	100%									
<i>Growth</i>	10%	100%								
<i>Prof</i>	1%	2%	100%							
<i>Age</i>	6%	-2%	-3%	100%						
<i>FR</i>	3%	-10%	-6%	11%	100%					
<i>Size</i>	-3%	-17%	2%	0%	17%	100%				
<i>PR</i>	2%	6%	-1%	-6%	-30%	-11%	100%			
<i>BR</i>	0%	7%	-3%	-5%	-2%	-27%	-1%	100%		
<i>CV</i>	3%	-6%	4%	3%	-6%	-1%	8%	-5%	100%	
<i>NDTS</i>	-2%	-8%	-4%	2%	-7%	-3%	3%	-2%	-7%	100%

*Table 2: Correlations* – This table presents the correlations between independent variables that can be important determinant factors in the decision of leverage ratio. The numbers above are expressed as percentage. FCF stands for Free Cash Flows, Growth for growth opportunities, Prof for Profitability, Age for the age of the firm, FR for the Foreign Exchange Risk, Size for the Size of the firms, Pr for Political Risk, CV for Collateral Value of assets and NDTS for Non-debt tax shields.

	All European Firms		DCs		MNCs	
	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>
<i>BR</i>	-0.21	0.00***	-0.14	0.27	-0.20	0.00***
<i>CV</i>	0.05	0.02**	-0.11	0.06*	0.08	0.00***
<i>FCF</i>	0.00	0.46	0.01	0.51	-0.01	0.17
<i>FR</i>	0.01	0.75	-0.07	0.10	0.07	0.00***
<i>PR</i>	0.00	0.93	0.00	0.70	0.00	0.86
<i>Growth</i>	-0.01	0.00***	-0.01	0.00***	-0.01	0.00***
<i>Prof</i>	-0.01	0.00***	-0.02	0.12	-0.01	0.00***
<i>NDTS</i>	0.19	0.00***	0.06	0.30	0.28	0.00***
<i>Size</i>	0.05	0.00***	0.09	0.00***	0.04	0.00***
<i>Age</i>	0.00	0.69	-0.02	0.34	0.00	0.48
<i>Time</i>	0.00	0.00***	0.00	0.28	-0.01	0.00***
<i>cons</i>	-0.93	0.00***	-1.45	0.00***	-0.96	0.00***
<i>Country Dummy</i>	Yes		Yes		Yes	
<i>R<sup>2</sup>Overall</i>		29%		31%		30%
<i>Wald Test</i>	567.11	0.00***	137.77	0.00***	548.54	0.00***

*Table 3: Output of Model 1-* This table reports the results of Model 1 regression. This Model 1 is regressed for the all sample of 367 European companies and also for MNCs sub-sample and DCs sub-sample. This model is made with observations from 2001 to 2014. Table 3 shows the coefficients of each factors and the P value of them. \*\*\*, \*\*, \* represent the ones that are significant at 1%, 5% and 10%. This table shows the overall r-square, which measures how well the model can explain the dependent variable, in this case Leverage. A Wald Test is also presented in this table, this test is similar to the F-test, which measure the global significance of coefficients. Countries dummies are omitted in this table since they are only used to control country's factors.

	Model 2		Model 3	
	<i>Coefficients</i>	<i>P-Value</i>	<i>Coefficients</i>	<i>P-Value</i>
<i>BR</i>	-0.21	0.00***	-0.25	0.04**
<i>CV</i>	0.05	0.02**	-0.10	0.04**
<i>FCF</i>	0.00	0.49	0.01	0.38
<i>FR</i>	0.02	0.20	-0.06	0.14
<i>PR</i>	0.00	1.00	0.00	0.86
<i>Growth</i>	-0.01	0.00***	-0.01	0.00***
<i>Prof</i>	-0.01	0.00***	-0.04	0.02**
<i>NDTS</i>	0.19	0.00***	0.07	0.21
<i>Size</i>	0.05	0.00***	0.09	0.00***
<i>Age</i>	0.00	0.74	0.02	0.15
<i>Time</i>	0.00	0.00***	0.00	0.00***
<i>_cons</i>	-0.91	0.00***	-1.68	0.00***
<i>MNC</i>	-0.06	0.00***	0.75	0.00***
<i>BRMNC</i>			0.08	0.56
<i>CVMNC</i>			0.20	0.00***
<i>FCFMNC</i>			-0.02	0.21
<i>FRMNC</i>			0.12	0.01***
<i>PRMNC</i>			0.00	0.82
<i>GrowthMNC</i>			0.00	0.39
<i>ProfMNC</i>			0.03	0.08*
<i>NDTSMNC</i>			0.21	0.00***
<i>SizeMNC</i>			-0.05	0.00***
<i>AgeMNC</i>			-0.03	0.05*
<i>Country Dummy</i>	Yes		Yes	
<i>R<sup>2</sup>Overall</i>		29%		29%
<i>Wald Test</i>	575.70	0.00***	662.97	0.00***

*Table 4 – Model 2 and Model 3:* This table shows the results obtained from Model 2 and Model 3. Besides previous factors that were already used in Model 1, in Model 2 and 3 other variables were introduced: a dummy variable, MNC, to understand if there are any differences between MNCs and DCs companies in Europe and interactions with all the factors to investigate which factors can explain the difference between DCs and MNCs in Europe. This Model uses observations from 2001 until 2014. In this table are present the coefficients and also p values. \*\*\*, \*\*, \* are significant at 1%, 5% and 10%. This table shows the overall r-square, which measures how well the model can explain the dependent variable, in this case Leverage. A Wald Test is also presented in this table, this test is similar to the F test, which measure the global significance of coefficients. Countries dummies are omitted in this table since they are only used to control country's factors.

	Model 4		Model 5	
	<i>Coefficients</i>	<i>P-Value</i>	<i>Coefficients</i>	<i>P-Value</i>
<i>BR</i>	-0.19	0.00***	-0.19	0.01***
<i>CV</i>	0.08	0.00***	0.09	0.00***
<i>FCF</i>	-0.01	0.19	-0.43	0.00***
<i>FR</i>	0.07	0.00***	0.07	0.00***
<i>PR</i>	0.00	0.91	0.00	0.92
<i>Growth</i>	-0.01	0.00***	-0.01	0.00***
<i>Prof</i>	-0.01	0.00***	-0.01	0.02**
<i>NDTS</i>	0.28	0.00***	0.28	0.00***
<i>Size</i>	0.04	0.00***	0.04	0.00***
<i>Age</i>	0.00	0.55	0.00	0.79
<i>Time</i>	-0.01	0.00***	-0.01	0.00***
<i>cons</i>	-0.93	0.00***	-0.87	0.00***
<i>Global</i>	-0.05	0.01**	-0.09	0.00***
<i>BRGlobal</i>			0.00	0.81
<i>CVGlobal</i>			0.00	0.73
<i>FCFGlobal</i>			0.45	0.00***
<i>FRGlobal</i>			1.73	0.24
<i>PRGlobal</i>			0.00	0.63
<i>GrowthGlobal</i>			0.00	0.38
<i>ProfGlobal</i>			-1.73	0.06*
<i>NDTSGlobal</i>			0.00	0.82
<i>SizeGlobal</i>			-0.08	0.11
<i>AgeGlobal</i>			0.54	0.11
<i>Country Dummy</i>	Yes		Yes	
<i>R<sup>2</sup>Overall</i>		30%		31%
<i>Wald Test</i>	557.08	0.00***	590.04	0.00***

*Table 5 – Model 4 and Model 5* -This table have the results obtained after regressing Model 4 and Model 5. In these Models there are incorporated a dummy variable, to investigate if there are differences between capital structure in MNCs with different exposures and several dummy interactions in order to investigate which factors can explain the difference between MNCs with Global exposure and MNCs which have a greater exposure to the European market. Observations used in these Models are from 2001 until 2014. In this table are present the coefficients and also p values. \*\*\*, \*\*, \* are significant at 1%, 5% and 10%. This table shows the overall r-square, which measures how well the model can explain the dependent variable, in this case Leverage. A Wald Test is also presented in this table, this test is similar to the F test, which measure the global significance of coefficients. Countries dummies are omitted in this table since they are only used to control country's factors.

Model 2 was regressed and the results obtained are in table 4. By analyzing it, it is possible to conclude that there are a differences between MNCs and DCs regarding the capital structure. This dummy variable, MNC which is 'one' if the firm is considered to be multinational and it is 'zero' if the firm is considered to be domestic, is significant at 1% level and it has a negative sign. In conclusion, in Europe there is a difference in leverage ratios of DCs and MNCs. Additionally, MNCs have less debt than DCs. This is consistent with the US evidence, however there are past literature support which do not reach the same result: French and Canadian evidence. Then, it is important to understand what are the main factors that can influence the difference between these two types of firms. This result was tested for other periods, before and after the financial crisis. There are differences in the capital structure of Multinationals and Domestic Corporations, after 2008 the result is significant at 10% level and after this period is significant at 5%. The coefficients are all negative revealing that MNCs, in Europe, have less debt ratios than DCs.

Table 4 also shows the results obtained from Model 3. This Model was designed in order to understand if MNCs have a different capital structure to those of DCs, and which factors can explain the difference. There are many factors that can explain the difference in MNCs and DCs: non-debt tax shield, foreign exchange risk, size, and collateral value of assets are significant at 1%, age is also relevant when it comes to explaining the difference in capital structure in European firms, at 5%. Finally profitability, at 10%, is also a relevant factor. Non-debt tax shield has a positive coefficient, so it contributes to MNCs having a greater impact of non-debt tax shield than DCs. This is understandable since this factor is significant for MNCs whereas it is not relevant for DCs when deciding the leverage ratio. Age has a negative coefficient in the interaction with the dummy, so MNCs will have less impact as age increases when compared to DCs. Foreign exchange risk is another relevant factor that can explain differences in capital structure in the European Market. MNCs have a less negative impact on foreign exchange risk in comparison to DCs. Size has negative coefficient so an increase in size will conduct to a less pronounced increase in leverage in MNCs than in DCs. For MNCs, an increase in collateral value will have a positive impact on leverage but a negative influence for DCs. Profitability has negative sign, so profitable DCs firms will raise more debt than profitable MNCs firms. The interaction of growth, free cash flow, political risk and business risk do

not provide any significant relationship that can explain the difference in capital structure of DCs and MNCs.

As showed earlier in this work, there is always differences in the capital structure of MNCs and DCs, however the explaining factors of these differences are different through time. Before the financial crisis the main explaining factors were: profitability and size, at 1%, and non-debt tax shield and collateral value at 10%. After 2008, collateral value and size remain as an important factor to comprehend the difference in capital structure. Additionally, business risk, growth and free cash flows can be considered as explaining factors.

After finding that MNCs' capital structure is different from DCs, this paper focuses only on MNCs. All this work is concentrated in European companies, and since there is not a great amount of literature regarding this subject, it is interesting to investigate if the capital structure for MNCs that have a greater exposure to European market is the same as MNCs that have a little exposure to European Markets and prefer to develop their activities outside Europe (MNCs with Global exposure).

Model 4 includes only one more variable: a dummy variable that is 'one' for MNCs which have more than 25% of foreign assets outside Europe and 'zero' if otherwise. As it is possible to see from table 5, this dummy variable is significant at 1% and it has a negative sign: a firm operating in Europe will have more debt than those which operate outside Europe. Considering the period from 2001 until 2008, this dummy variable is still significant at 5% and after the crisis is significant at 10%.

Lastly, it is important to understand which factors can have an impact on the latest conclusion which says that MNCs with exposure to Europe will have more debt than the ones with global exposure.

In table 5, it is possible to observe the results from the latest model tested in this project, Model 5. The last regression found the factors that can explain the existent difference in capital structure of multinational firms with Global exposure and multinational firms with Europe exposure. The main factors found are free cash flow to the firm, which is significant at 1% and profitability, 10%. Profitability has a negative sign and MNCs with Global exposure have a greater negative impact on leverage ratios as the profitability rises than MNCs with European exposure. Free Cash Flows has a positive coefficient so for Global companies, so it will offset the negative impact of the free cash flows on leverage.

In order to test this result, the period was divided into two groups. Before the financial crisis, besides the previous factors, age, foreign exchange risk, political risk and collateral value of assets could explain the differences between MNCs. After the financial crisis, free cash flows remains an important variable, additionally growth and business risk help to understand why MNCs with greater exposure to Europe have more leverage than MNCs with Global exposure.

Model 1 was also tested in these new groups of firms, MNCs which are more exposure to Global markets and MNCs that are more exposure to European markets, as it is possible to see in table 6. This model was also conducted for the 'all sample' period and also divided into two periods: before and after the crisis. There are not big differences in these groups of firms. From 2001 until 2014, growth, foreign exchange risk, non-debt tax shields, size and time are significant for both groups of firms. However, for MNCs with that are more exposure to European market free cash flows are also important to determine the leverage ratio, at 1% level, and it has a negative coefficient. This is consistent with pecking order theory. For MNCs that decided to expand outside Europe, free cash flows is an irrelevant factor explaining leverage ratios. Moreover, profitability, business risk and collateral value of Assets are important to understand debt ratios. Since these firms are dispersed all over the world it is understandable that debtholders will require more assets as collateral than firms which have more exposure to European markets which are stable democracies. Additionally, business risk is a major concern for firms that invest in other operations outside Europe since it is hard for debtholders to measure the firm value and the probability of default since they probably do not know very well these other markets. Profitability has negative coefficient and it is also consistent with pecking order theory. Business risk has also negative sign as it is predicted by the Agency costs Theory and collateral value is positive also as predicted.

In both periods, for European exposure free cash flows, growth, size and time can explain the leverage ratio. Before the crisis, also profitability, foreign exchange risk and collateral value of assets could explain the debt ratio of these firms. After 2008, business risk, at 1%, begin to have relevance in the leverage ratios.

Concerning Global MNCs, independently of the time period considered growth, profitability, size, business risk, non-debt tax shield and time influence leverage ratios. Before 2008, foreign exchange risk was important at 10% level. After the crisis, collateral

	European Exposure		Global Exposure	
	<i>Coefficients</i>	<i>P-Value</i>	<i>Coefficients</i>	<i>P-Value</i>
<i>FCF</i>	-0.49	0.00***	0.00	0.56
<i>Growth</i>	0.00	0.00***	-0.02	0.00***
<i>Prof</i>	0.00	0.41	-0.11	0.00***
<i>Age</i>	0.01	0.32	0.00	0.60
<i>FR</i>	0.11	0.00***	0.06	0.00***
<i>Size</i>	0.05	0.00***	0.04	0.00***
<i>PR</i>	0.00	0.78	0.00	0.88
<i>BR</i>	-0.08	0.64	-0.19	0.01***
<i>CV</i>	0.07	0.12	0.08	0.01***
<i>NDTS</i>	0.13	0.02**	0.38	0.00***
<i>Time</i>	-0.00	0.00***	-0.01	0.00***
<i>cons</i>	-0.74	0.00***	-1.01	0.00***
<i>Country Dummy</i>	Yes		Yes	
<i>R<sup>2</sup> Overall</i>		28%		33%
<i>Wald Test</i>	157.98	0.00***	552.99	0.00**

*Table 6 – Output of Model 1:* This table shows the results of Model 1 applied to MNCs with greater exposure to Europe and MNCs with greater exposure to Global markets. The factors used are the same as in the previous study for Domestic and Multinational firms. The observations used are from 2001 to 2014. It shows coefficients and p-values. \*\*\*, \*\*, \*, 1%, 5% and 10%. This table shows the overall r-square, which measures how well the model can explain the dependent variable, in this case Leverage. A Wald Test is also presented in this table, this test is similar to the F test, which measure the global significance of coefficients. Countries dummies are omitted in this table since they are only used to control country's factors.

value is one of the most important factors, at 1% level, this happens because after 2008 debtholders probably want to have a guarantee of their investment in case of bankruptcy.

#### 4.1. Industry Dummy

In order to improve the results previously analysed, in all models, several dummy variables were incorporated in the Models, representing the industries of each firm. These dummy variables accommodate the differences between industries. The industries were extracted from Thomson and Reuters.

Comparing with the results obtained before, most of the conclusions are the same. For the 'all sample' and MNCs, the factors that can influence leverage ratios remain the same. However, for DCs, size, collateral value of assets and growth are still significant, but foreign exchange risk became significant, at 5%. DCs with greater exposure to other markets have less debt.

Additionally, adding industry dummy variables, the difference between MNCs and DCs, measured in Model 2, become not significant at any level and for any period considered: from 2001 until 2014, from 2001 until 2007 and from 2008 until 2014. This result suggests that there are no differences between MNCs and DCs concerning debt levels. This result is consistent with Akhtar (2005), which found that the level of leverage of Australian MNCs and Australian DCs does not differ significantly.

Considering, the MNCs sub-sample it was also tested if there are differences in MNCs that have greater exposure to European markets and MNCs with greater exposure to Global markets. This difference sustains when introduction industry dummies and it is significant at 5%. The explaining factors for this difference are the same as before: profitability and free cash flows.

MNCs with greater exposure to Europe, with this industry dummies incorporated, have different factors which have impact on leverage ratio. Besides growth, time, non-debt tax shields, size, foreign exchange risk and free cash flows, age and collateral value became significant at 5% and both with positive coefficient. Older firms will have more debt and firms which have more assets that can be collateralized have also more leverage.

### 5. Conclusions

MNCs operate in a very complex environment and they face different risks and factors from firms which only operates in their own country. When managers are faced with

decisions regarding the capital structure of the MNCs all these factors and risks should be taken into consideration. This paper intended to prove that there is a difference in the capital structure of DCs and MNCs in Europe. In order to do so, five important countries that belong to the European Union were selected. When the sample is divided into these two groups, it is possible to investigate which factors are relevant to determine the debt for MNCs but also for DCs. For MNCs there are several variables that can influence long term debt. These factors are profitability, foreign exchange risk, size, business risk, collateral value, non-debt tax shields, growth, and time. However, these factors may change if the sample is divided into two periods: one period before the financial crisis - before 2008 - and another after. For MNCs profitability of the firm is the sole factor that started to have significance in influencing the leverage ratio after the world financial crisis. However, free cash flows, after the crisis, are no longer significant even if before they were at 10%. For DCs, for the all period there are fewer factors that can explain the capital structure of these firms: growth, size and collateral value. Just as it was done for MNCs, DCs firms were divided into two sub-periods, one before 2008 and another after 2008. Some factors started to make sense in the influence of leverage ratios after the financial crisis: business risk, and time trend. In conclusion, MNCs and DCs have different influencing factors in their capital structure and after the crisis the relevant factors to understand leverage have changed.

MNCs and DCs display a different average for leverage, and there is effectively a difference between leverage ratios. European MNCs have less debt than DCs. The major factors, which can explain the difference are non-debt tax shields, profitability, age, foreign exchange risk, size, and collateral value of assets. MNCs display a higher impact on leverage of non-debt tax shield, profitability, foreign exchange risk and collateral value of assets than DCs. However, the age of the firm and the size have less impact on MNCs than DCs. However, this difference between MNCs and DCs disappears if industry dummies are considered.

Taking into consideration the MNCs group, this group was divided into firms that have greater exposure to European markets and firms that have a greater exposure to other countries outside Europe. There is also a difference in capital structure between these two groups: European MNCs that focus on the European market have more debt than those which have a bigger exposure to countries that do not belong to Europe. The difference is persistent even when industries effects were taken into consideration. The

main factors that can explain the difference found in this situation are free cash flows and profitability.

For further investigation, it would be interesting to incorporate all the European Union members in the study. Also, it would be interesting to have more information regarding other companies that are not listed in any stock exchange and for this particular case, Europe, should be studied a new proxy for foreign exchange risk.

6. APPENDICES  
6.1. 'All Sample'  
6.1.1. Model 1

	All European Firms 2001-2007		All European Firms 2008-2014	
	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>
<i>BR</i>	-0.27	0.00***	-2.13	0.00***
<i>CV</i>	0.06	0.02**	0.12	0.00***
<i>FCF</i>	-0.01	0.19	-0.00	0.50
<i>FR</i>	0.03	0.12	-0.04	0.05*
<i>PR</i>	-0.00	0.63	-0.0	0.81
<i>Growth</i>	-0.00	0.00***	-0.01	0.00***
<i>Prof</i>	-0.00	0.88	-0.02	0.01***
<i>NDTS</i>	0.12	0.00***	0.19	0.00***
<i>Size</i>	0.05	0.00***	0.04	0.00***
<i>Age</i>	-0.01	0.13	-0.00	0.67
<i>Time</i>	-0.02	0.00***	-0.02	0.00***
<i>cons</i>	-0.81	0.00***	-0.43	0.00***
<i>Country Dummy</i>	Yes		Yes	
<i>R<sup>2</sup> Overall</i>		28%		39%
<i>Wald Test</i>	379.04	0.00***	693.56	0.00***

Table 7- Model 1 for All firms in Portugal, Spain, Germany, France and U.K. This tables shows the results from Model 1 for two periods: 2001-2007 and 2008-2014. \*\*\*, \*\*, \* represents that the coefficients are significant at 1%, 5% and 10% level

### 6.1.2. Model 2 and Model 3

	Model 2 2001-2007		Model 2 2008-2014		Model 3 2001-2007		Model 3 2008-2014	
	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>
<i>BR</i>	-0.27	0.00***	-2.12	0.00***	-0.16	0.12	-2.71	0.00***
<i>CV</i>	0.06	0.03**	0.12	0.00***	-0.03	0.58	-0.01	0.93
<i>FCF</i>	-0.01	0.20	0.00	0.01	0.01	0.79	0.04	0.11
<i>FR</i>	0.05	0.04**	-0.01	0.05	0.02	0.77	-0.03	0.60
<i>PR</i>	0.00	0.71	0.00	0.05	0.00	0.96	0.00	0.43
<i>Growth</i>	0.00	0.00***	-0.01	0.00	0.00	0.03**	-0.01	0.00***
<i>Prof</i>	0.00	0.91	-0.02	-0.27	-0.10	0.01***	-0.04	0.01**
<i>NDTS</i>	0.12	0.00***	0.19	0.06	0.07	0.15	0.09	0.36
<i>Size</i>	0.05	0.00***	0.04	0.12	0.1	0.00***	0.06	0.00***
<i>Age</i>	-0.01	0.16	0.00	-0.02	0.00	0.91	-0.01	0.78
<i>Time</i>	-0.02	0.00***	-0.02	0.00	-0.02	0.00***	-0.02	0.00***
<i>cons</i>	-0.79	0.00***	-0.42	-0.79	-1.72	0.00***	-0.90	0.00***
<i>MNC</i>	-0.04	0.09*	-0.06	0.02**	0.92	0.00***	0.45	0.15
<i>BRMNC</i>					-0.13	0.26	0.82	0.04**
<i>CVMNC</i>					0.12	0.09*	0.15	0.05**
<i>FCFMNC</i>					-0.02	0.37	-0.04	0.08*
<i>FRMNC</i>					0.03	0.68	0.04	0.51
<i>PRMNC</i>					0.00	0.97	0.00	0.41
<i>GrowthMNC</i>					0.00	0.75	-0.01	0.00***
<i>ProfMNC</i>					0.11	0.01***	0.03	0.11
<i>NDTSMNC</i>					0.12	0.07*	0.13	0.27
<i>SizeMNC</i>					-0.05	0.00***	-0.03	0.01**
<i>AgeMNC</i>					-0.01	0.43	0.00	0.87
<i>Country Dummy</i>	Yes		Yes		Yes		Yes	
<i>R<sup>2</sup>Overall</i>		28%		39%		29%		40%
<i>Wald Test</i>	82.06	0.00***	699.62	0.00***	425.10	0.00***	758.98	0.00***

Table 8- This table shows the results from Model 2 and 3 for two different periods: 2001 to 2007 and 2008 to 2014. \*\*\*, \*\*, \* , represents that coefficients are significant at 1%, 5% and 10%.

## 6.2. MNCs sub-sample and DCs sub-sample

### 6.2.1. Model 1

	DCs 2001-2007		DCs 2008-2014		MNCs 2001-2007		MNCs 2008-2014	
	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>
<i>BR</i>	0.01	0.95	-2.66	0.00***	-0.34	0.00***	-1.92	0.00***
<i>CV</i>	-0.05	0.50	0.00	0.95	0.07	0.02**	0.14	0.00***
<i>FCF</i>	0.00	0.96	0.03	0.18	-0.01	0.09*	0.00	0.32
<i>FR</i>	0.04	0.60	-0.01	0.82	0.06	0.01**	0.00	0.86
<i>PR</i>	0.00	0.43	0.00	0.28	0.00	0.97	0.00	0.83
<i>Growth</i>	-0.01	0.01***	-0.01	0.00***	0.00	0.00***	-0.02	0.00***
<i>Prof</i>	-0.11	0.01***	-0.04	0.04*	0.00	0.78	-0.01	0.07*
<i>NDTS</i>	0.06	0.20	0.09	0.39	0.20	0.00***	0.22	0.00***
<i>Size</i>	0.09	0.00***	0.07	0.00***	0.04	0.00***	0.03	0.00***
<i>Age</i>	-0.02	0.29	-0.01	0.66	-0.01	0.25	0.00	0.68
<i>Time</i>	0.00	0.99	-0.02	0.00***	-0.02	0.00***	-0.02	0.00***
<i>cons</i>	-1.43	0.00***	-1.00	0.00***	-0.81	0.00***	-0.44	0.00***
<i>Country Dummy</i>	Yes		Yes		Yes		Yes	
<i>R<sup>2</sup> Overall</i>		35%		42%		29%		40%
<i>Wald Test</i>	77.10	0.00***	139.41	0.00***	374.83	0.00***	622.35	0.00***

Table 9 - This table shows the results from Model 1 for MNCs and DCs and also for two different periods: 2001 to 2007 and 2008 to 2014. \*\*\*, \*\*, \*, represents that coefficients are significant at 1%, 5% and 10%.

## 6.2.2. Model 4 and Model 5

	Model 4 2001-2007		Model 4 2008-2014		Model 5 2001-2007		Model 5 2008-2014	
	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>
<i>BR</i>	-0.34	0.00***	-1.91	0.00***	-0.29	0.00***	-1.85	0.00***
<i>CV</i>	0.07	0.03**	0.14	0.00***	0.08	0.01**	0.15	0.00***
<i>FCF</i>	-0.01	0.10*	0.00	0.34	-0.45	0.00***	-0.42	0.00***
<i>FR</i>	0.07	0.01***	0.01	0.65	0.08	0.00***	0.01	0.66
<i>PR</i>	0.00	0.98	0.00	0.76	0.00	0.60	0.00	0.71
<i>Growth</i>	0.00	0.00***	-0.02	0.00***	0.00	0.00***	-0.02	0.00***
<i>Prof</i>	0.00	0.93	-0.01	0.07*	0.00	0.40	-0.01	0.10
<i>NDTS</i>	0.20	0.00***	0.22	0.00***	0.21	0.00***	0.22	0.00***
<i>Size</i>	0.05	0.00***	0.04	0.00***	0.04	0.00***	0.03	0.00***
<i>Age</i>	-0.01	0.25	0.00	0.73	-0.01	0.38	0.00	0.98
<i>Time</i>	-0.02	0.00***	-0.02	0.00***	-0.02	0.00***	-0.02	0.00***
<i>cons</i>	-0.80	0.00***	-0.42	0.00***	-0.77	0.00***	-0.36	0.00***
<i>Global</i>	-0.04	0.05**	-0.03	0.06*	-0.09	0.00***	-0.07	0.00***
<i>BRGlobal</i>					0.00	0.32	0.00	0.03**
<i>CVGlobal</i>					0.27	0.01**	-0.02	0.45
<i>FCFGlobal</i>					0.48	0.00***	0.28	0.03**
<i>FRGlobal</i>					7.39	0.02**	1.14	0.50
<i>PRGlobal</i>					-0.01	0.05*	0.00	0.46
<i>GrowthGlobal</i>					-0.02	0.16	0.04	0.00***
<i>ProfGlobal</i>					-4.88	0.00***	-3.35	0.32
<i>NDTSGlobal</i>					-0.36	0.00***	0.02	0.55
<i>SizeGlobal</i>					0.08	0.75	-0.08	0.27
<i>AgeGlobal</i>					2.65	0.01***	0.66	0.53
<i>Country Dummy</i>	Yes		Yes		Yes		Yes	
<i>R<sup>2</sup>Overall</i>		30%		40%		32%		41%
<i>Wald Test</i>	379.46	0.00***	626.20	0.00***	423.39	0.00***	655.29	0.00

Table 10 - This table shows the results from Model 4 and 5 for two different periods: 2001 to 2007 and 2008 to 2014. \*\*\*, \*\*, \* represents that coefficients are significant at 1%, 5% and 10%.

### 6.3. EU sub-sample and Global sub-sample

#### 6.3.1. Model 1

	European Exposure 2001-2007		European Exposure 2008-2014		Global Exposure 2001-2007		Global exposure 2008-2014	
	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>
<i>BR</i>	-0.19	0.20	-1.65	0.00***	-0.30	0.00***	-1.80	0.00***
<i>CV</i>	0.16	0.01***	0.00	0.95	0.04	0.21	0.19	0.00***
<i>FCF</i>	-0.49	0.00***	-0.30	0.02**	-0.01	0.35	0.00	0.29
<i>FR</i>	0.17	0.00***	0.06	0.23	0.05	0.11	-0.02	0.54
<i>PR</i>	0.00	0.41	0.00	0.33	0.00	0.52	0.00	0.85
<i>Growth</i>	0.00	0.03**	-0.04	0.00***	-0.01	0.00***	-0.01	0.00***
<i>Prof</i>	0.01	0.03**	0.00	0.63	-0.10	0.00***	-0.17	0.00***
<i>NDTS</i>	0.06	0.30	0.13	0.15	0.54	0.00***	0.21	0.01***
<i>Size</i>	0.05	0.00***	0.04	0.00***	0.05	0.00***	0.04	0.00***
<i>Age</i>	0.00	0.77	0.02	0.22	-0.01	0.43	0.00	0.85
<i>Time</i>	-0.02	0.00***	-0.02	0.00***	-0.02	0.00***	-0.02	0.00***
<i>cons</i>	-0.81	0.00***	-0.26	0.21	-1.13	0.00***	-0.50	0.00***
<i>Country Dummy</i>	Yes		Yes		Yes		Yes	
<i>R<sup>2</sup>Overall</i>		40%		45%		30%		41%
<i>Wald Test</i>	145.97	0.00***	205.01	0.00***	352.47	0.00***	479.55	0.00***

Table 21 - This table shows the results from Model 1 for MNCs with European Exposure and MNCs with Global exposure and also for two different periods: 2001 to 2007 and 2008 to 2014. \*\*\*, \*\*, \*, represents that coefficients are significant at 1%, 5% and 10%.

## 6.4. Industry

### 6.4.1 Model 1 for 'All Sample', MNCs and DCs

	All European Firms 2001-2014		DCs 2001-2014		MNCs 2001-2014	
	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>
<i>BR</i>	-0.19	0.00***	-0.11	0.40	-0.18	0.01***
<i>CV</i>	0.06	0.02**	-0.16	0.01**	0.09	0.00***
<i>FCF</i>	0.00	0.37	0.01	0.51	-0.01	0.11
<i>FR</i>	0.02	0.13	-0.10	0.03**	0.08	0.00***
<i>PR</i>	0.00	0.79	0.00	0.66	0.00	0.98
<i>Growth</i>	-0.01	0.00***	-0.01	0.00***	-0.01	0.00***
<i>Prof</i>	-0.01	0.00***	-0.02	0.19	-0.01	0.00***
<i>NDTS</i>	0.19	0.00***	0.06	0.31	0.27	0.00***
<i>Size</i>	0.05	0.00***	0.09	0.00***	0.04	0.00***
<i>Age</i>	0.00	0.72	-0.01	0.43	0.00	0.61
<i>Time</i>	0.00	0.00***	0.00	0.46	-0.01	0.00***
<i>cons</i>	-0.94	0.00***	-1.78	0.00***	-0.93	0.00***
<i>Country Dummy</i>	Yes		Yes		Yes	
<i>Industry Dummy</i>	Yes		Yes		Yes	
<i>R<sup>2</sup>Overall</i>		40%		61%		43%
<i>Wald Test</i>	713.74	0.00***	224.23	0.00***	679.77	0.00***

Table 32 - This table shows the results from Model 1, in this Model several dummy variables were introduced in order to control for industry effects. The table shows the results for 'All sample' of firms, for MNCs and for DCs. This table have data from 2001-2014. \*\*\*, \*\*, \*, represents that coefficients are significant at 1%, 5% and 10%.

6.4.2. 'All Sample'  
6.4.2.1. Model 1

	All European Firms 2001-2007		All European Firms 2008-2014	
	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>
<i>BR</i>	-0.26	0.00***	-2.01	0.00***
<i>CV</i>	0.07	0.03**	0.15	0.00***
<i>FCF</i>	-0.01	0.16	0.00	0.35
<i>FR</i>	0.05	0.03**	-0.01	0.69
<i>PR</i>	0.00	0.53	0.00	0.61
<i>Growth</i>	0.00	0.00***	-0.01	0.00***
<i>Prof</i>	-0.01	0.16	-0.02	0.01***
<i>NDTS</i>	0.12	0.00***	0.18	0.00***
<i>Size</i>	0.05	0.00***	0.03	0.00***
<i>Age</i>	-0.02	0.04**	0.00	0.60
<i>Time</i>	-0.02	0.00***	-0.02	0.00***
<i>cons</i>	-0.88	0.00***	-0.35	0.07*
<i>Country Dummy</i>	Yes		Yes	
<i>Industry Dummy</i>	Yes		Yes	
<i>R<sup>2</sup> Overall</i>		39%		49%
<i>Wald Test</i>	484.32	0.00***	827.69	0.00***

Table 43 - This table shows the results from Model 1, in this Model several dummy variables were introduced in order to control for industry effects. The table shows the results for 'All sample' of firms. The sample period was divided into two different periods: 2001-2007 and 2008-2014. \*\*\*, \*\*, \* represents that coefficients are significant at 1%, 5% and 10%.

### 6.4.2.2. Model 2

	Model 2 2001-2007		Model 2 2008-2014		Model 2 2001-2014	
	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>
<i>BR</i>	-0.26	0.00***	-2.01	0.00***	-0.19	0.00***
<i>CV</i>	0.07	0.03**	0.15	0.00***	0.06	0.02**
<i>FCF</i>	-0.01	0.17	0.00	0.36	0.00	0.38
<i>FR</i>	0.05	0.03**	0.00	0.90	0.03	0.06*
<i>PR</i>	0.00	0.56	0.00	0.65	0.00	0.83
<i>Growth</i>	0.00	0.00***	-0.01	0.00***	-0.01	0.00***
<i>Prof</i>	-0.01	0.16	-0.02	0.01***	-0.01	0.00***
<i>NDTS</i>	0.12	0.00***	0.18	0.00***	0.19	0.00***
<i>Size</i>	0.05	0.00***	0.03	0.00***	0.05	0.00***
<i>Age</i>	-0.01	0.05**	0.00	0.59	0.00	0.70
<i>Time</i>	-0.02	0.00***	-0.02	0.00***	0.00	0.00***
<i>cons</i>	-0.88	0.00***	-0.35	0.08*	-0.93	0.00***
<i>MNC</i>	-0.02	0.49	-0.03	0.22	-0.03	0.14
<i>Country Dummy</i>	Yes		Yes		Yes	
<i>Industry Dummy</i>	Yes		Yes		Yes	
<i>R<sup>2</sup>Overall</i>		39%		49%		40%
<i>Wald Test</i>	484.09	0.00***	828.43	0.00***	715.27	0.00***

Table 54 - This table shows the results from Model 2, in this Model several dummy variables were introduced in order to control for industry effects. The table shows the results three different periods: 2001-2014, 2001-2007 and 2008-2014. \*\*\*, \*\*, \*, represents that coefficients are significant at 1%, 5% and 10%.

### 6.4.3. MNCs sub-sample and DCs sub-sample

#### 6.4.3.1. Model 1

	DCs 2001-2007		DCs 2008-2014		MNCs 2001-2007		MNCs 2008-2014	
	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>
<i>BR</i>	0.01	0.91	-2.34	0.00***	-0.33	0.00***	-1.75	0.00***
<i>CV</i>	-0.09	0.17	-0.05	0.65	0.08	0.02**	0.18	0.00***
<i>FCF</i>	-0.01	0.56	0.03	0.29	-0.02	0.05**	-0.01	0.19
<i>FR</i>	-0.07	0.43	-0.05	0.40	0.07	0.00***	0.03	0.21
<i>PR</i>	0.00	0.62	0.00	0.41	0.00	0.88	0.00	0.57
<i>Growth</i>	-0.01	0.00***	-0.01	0.01***	0.00	0.00***	-0.02	0.00***
<i>Prof</i>	-0.18	0.00***	-0.03	0.10*	-0.01	0.41	-0.01	0.04**
<i>NDTS</i>	0.08	0.12	0.08	0.42	0.19	0.00***	0.20	0.00***
<i>Size</i>	0.08	0.00***	0.09	0.00***	0.05	0.00***	0.03	0.00***
<i>Age</i>	-0.02	0.21	0.00	0.88	-0.01	0.08*	0.00	0.80
<i>Time</i>	0.00	0.96	-0.02	0.00***	-0.02	0.00***	-0.02	0.00***
<i>cons</i>	-1.70	0.00***	-1.69	0.00***	-0.86	0.00***	-0.31	0.10
<i>Country Dummy</i>	Yes		Yes		Yes		Yes	
<i>Industry Dummy</i>	Yes		Yes		Yes		Yes	
<i>R<sup>2</sup>Overall</i>		74%		63%		42%		52%
<i>Wald Test</i>	281.26	0.00***	175.37	0.00***	464.74	0.00***	762.63	0.00***

Table 65 - This table shows the results from Model 1, in this Model several dummy variables were introduced in order to control for industry effects. The table shows the results for MNCs and for DCs. This table shows the results for two different periods: 2001-2007 and 2008-2014 . \*\*\*, \*\*, \*, represents that coefficients are significant at 1%, 5% and 10%.

### 6.4.3.2. Model 4 and 5

	Model 4 2001-2007		Model 4 2008-2014		Model 5 2001-2007		Model 5 2008-2014	
	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>
<i>BR</i>	-0.33	0.00***	-1.75	0.00***	-0.28	0.00***	-1.71	0.00***
<i>CV</i>	0.08	0.02**	0.18	0.00***	0.08	0.01**	0.18	0.00***
<i>FCF</i>	-0.01	0.06*	-0.01	0.20	-0.40	0.00***	-0.35	0.00***
<i>FR</i>	0.08	0.00***	0.04	0.17	0.08	0.00***	0.04	0.15
<i>PR</i>	0.00	0.88	0.00	0.47	0.00	0.74	0.00	0.46
<i>Growth</i>	0.00	0.00***	-0.02	0.00***	0.00	0.00***	-0.02	0.00***
<i>Prof</i>	-0.01	0.28	-0.01	0.04**	0.00	0.70	-0.01	0.06*
<i>NDTS</i>	0.19	0.00***	0.20	0.00***	0.20	0.00***	0.20	0.00***
<i>Size</i>	0.05	0.00***	0.03	0.00***	0.05	0.00***	0.03	0.00***
<i>Age</i>	-0.01	0.10*	0.00	0.90	-0.01	0.17	0.00	0.75
<i>Time</i>	-0.02	0.00***	-0.02	0.00***	-0.02	0.00***	-0.02	0.00***
<i>_cons</i>	-0.84	0.00***	-0.29	0.13	-0.84	0.00***	-0.27	0.17
<i>Global</i>	-0.05	0.04**	-0.04	0.04**	-0.09	0.00***	-0.07	0.00***
<i>BRGlobal</i>					0.00	0.38	0.00	0.05*
<i>CVGlobal</i>					0.29	0.01***	-0.02	0.44
<i>FCFGlobal</i>					0.43	0.00***	0.23	0.09*
<i>FRGlobal</i>					7.30	0.02**	1.08	0.52
<i>PRGlobal</i>					-0.01	0.04**	0.00	0.46
<i>GrowthGlobal</i>					-0.02	0.13	0.04	0.01***
<i>ProfGlobal</i>					-4.53	0.00***	-3.30	0.33
<i>NDTSGlobal</i>					-0.38	0.00***	0.02	0.53
<i>SizeGlobal</i>					0.13	0.58	-0.08	0.26
<i>AgeGlobal</i>					2.53	0.01***	0.70	0.50
<i>Country Dummy</i>	Yes		Yes		Yes		Yes	
<i>Industry Dummy</i>	Yes		Yes		Yes		Yes	
<i>R<sup>2</sup> Overall</i>		43%		52%		45%		53%
<i>Wald Test</i>	479.64	0.00***	770.52	0.00***	511.74	0.00***	785.34	0.00

Table 76- This table shows the results from Model 4 and Model 5, in these Models several dummy variables were introduced in order to control for industry effects. The table shows the results for two different periods: 2001- 2007 and 2008- 2014. \*\*\*, \*\*, \*, represents that coefficients are significant at 1%, 5% and 10%.

	Model 4 2001-2014		Model 5 2001-2014	
	<i>Coefficients</i>	<i>P-Value</i>	<i>Coefficients</i>	<i>P-Value</i>
<i>BR</i>	-0.18	0.01***	-0.17	0.01**
<i>CV</i>	0.09	0.00***	0.09	0.00***
<i>FCF</i>	-0.01	0.13	-0.38	0.00***
<i>FR</i>	0.09	0.00***	0.09	0.00***
<i>PR</i>	0.00	0.94	0.00	0.94
<i>Growth</i>	-0.01	0.00***	-0.01	0.00***
<i>Prof</i>	-0.01	0.00***	-0.01	0.01***
<i>NDTS</i>	0.27	0.00***	0.28	0.00***
<i>Size</i>	0.04	0.00***	0.04	0.00***
<i>Age</i>	0.00	0.71	0.00	0.98
<i>Time</i>	-0.01	0.00***	-0.01	0.00***
<i>cons</i>	-0.90	0.00***	-0.86	0.00***
<i>Global</i>	-0.05	0.01	-0.09	0.00***
<i>BRGlobal</i>			0.00	0.88
<i>CVGlobal</i>			0.00	0.76
<i>FCFGlobal</i>			0.40	0.00***
<i>FRGlobal</i>			1.74	0.24
<i>PRGlobal</i>			0.00	0.64
<i>GrowthGlobal</i>			-0.01	0.29
<i>ProfGlobal</i>			-1.67	0.07*
<i>NDTSGlobal</i>			0.00	0.85
<i>SizeGlobal</i>			-0.08	0.11
<i>AgeGlobal</i>			0.53	0.12
<i>Country Dummy</i>	Yes		Yes	
<i>Industry Dummy</i>	Yes		Yes	
<i>R<sup>2</sup>Overall</i>		43%		44%
<i>Wald Test</i>	689.05	0.00***	711.09	0.00***

Table 87- This table shows the results from Model 4 and 5, in these Models several dummy variables were introduced in order to control for industry effects. The table shows the results for 2001-2014. \*\*\*, \*\*, \* , represents that coefficients are significant at 1%, 5% and 10.

## 6.5. EU sub-sample and Global sub-sample

### 6.5.1. Model 1

	European Exposure 2001-2007		European Exposure 2008-2014		Global Exposure 2001-2007		Global Exposure 2008-2014	
	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>	<i>Coefficient</i>	<i>P Value</i>
<i>BR</i>	-0.17	0.25	-1.34	0.00***	-0.30	0.00***	-1.67	0.00***
<i>CV</i>	0.20	0.00***	0.09	0.31	0.03	0.46	0.21	0.00***
<i>FCF</i>	-0.43	0.00***	-0.27	0.05**	-0.01	0.28	-0.01	0.23
<i>FR</i>	0.17	0.00***	0.13	0.03**	0.07	0.02**	0.01	0.69
<i>PR</i>	0.00	0.37	0.00	0.66	0.00	0.73	0.00	0.93
<i>Growth</i>	0.00	0.05**	-0.04	0.00***	-0.01	0.00***	-0.01	0.00***
<i>Prof</i>	0.01	0.23	0.00	0.92	-0.13	0.00***	-0.17	0.00***
<i>NDTS</i>	0.05	0.34	0.11	0.21	0.52	0.00***	0.20	0.01**
<i>Size</i>	0.06	0.00***	0.04	0.00***	0.05	0.00***	0.04	0.00***
<i>Age</i>	0.02	0.31	0.04	0.01**	-0.01	0.16	0.00	0.67
<i>Time</i>	-0.02	0.00***	-0.02	0.00***	-0.02	0.00***	-0.02	0.00***
<i>cons</i>	-0.85	0.00***	-0.15	0.64	-1.17	0.00***	-0.47	0.03**
<i>Country Dummy</i>	Yes		Yes		Yes		Yes	
<i>Industry Dummy</i>	Yes		Yes		Yes		Yes	
<i>R<sup>2</sup>Overall</i>		69%		64%		43%		53%
<i>Wald Test</i>	249.23	0.00***	321.16	0.00***	410.41	0.00***	560.53	0.00***

Table 98 - This table shows the results from Model 1, in this Model several dummy variables were introduced in order to control for industry effects. The table shows the results for MNCs with European exposure and MNCs with Global Exposure. The results are divided in two different periods: 2001-2007 and 2008-2014. \*\*\*, \*\*, \*, represents that coefficients are significant at 1%, 5% and 10%.

	European Exposure 2001-2014		Global Exposure 2001-2014	
	<i>Coefficients</i>	<i>P-Value</i>	<i>Coefficients</i>	<i>P-Value</i>
<i>FCF</i>	-0.01	0.93	-0.18	0.01**
<i>Growth</i>	0.10	0.05**	0.07	0.02**
<i>Prof</i>	-0.43	0.00***	0.00	0.48
<i>Age</i>	0.14	0.00***	0.08	0.00***
<i>FR</i>	0.00	0.99	0.00	0.86
<i>Size</i>	0.00	0.00***	-0.02	0.00***
<i>PR</i>	-0.01	0.16	-0.11	0.00***
<i>BR</i>	0.12	0.03**	0.38	0.00***
<i>CV</i>	0.05	0.00***	0.04	0.00***
<i>NDTS</i>	0.03	0.01**	-0.01	0.46
<i>Time</i>	-0.01	0.00***	-0.01	0.00***
<i>cons</i>	-0.70	0.01**	-0.99	0.00***
<i>Country Dummy</i>	Yes		Yes	
<i>Industry Dummy</i>	Yes		Yes	
<i>R<sup>2</sup> Overall</i>		57%		45%
<i>Wald Test</i>	235.74	0.00***	627.00	0.00**

*Table 19* - This table shows the results from Model 1, in this Model several dummy variables were introduced in order to control for industry effects. The table shows the results for MNCs with European Exposure and MNCs with Global exposure. This table have data from 2001-2014. \*\*\*, \*\*, \* , represents that coefficients are significant at 1%, 5% and 10%.

## 7. References

- Agrawal, Anup and Nandu J. Nagarajan, 1990, Corporate Capital Structure, Agency Costs, and Ownership Control: The Case of All-Equity Firms, *Journal of Finance* 45, 1325-1331.
- Akhtar, Shumi, 2005, The Determinants of Capital Structure for Australian Multinational and Domestic Corporations, 2005, *Australian Journal of Management* 30, 321-341.
- Akhtar, Shumi and Barry Oliver, 2009, Determinants of Capital Structure for Japanese Multinational and Domestic Corporations, *International Review of Finance* 9, 1-26.
- Bartlett, C., and S. Ghoshal, 1989, *Managing Across Borders: The Transnational Solution*, Cambridge, MA: Harvard Business School Press.
- Burgman, Todd A., 1996, An Empirical Examination of Multinational Corporate Capital Structure, *Journal of International Business Studies* 27, 553-570.
- Chen, Charles J. P., C. S. Agnes Cheng, Jia He and Jawon Kim, 1997, An Investigation of The Relationship Between International Activities and Capital Structure, *Journal of International Business Studies* 28, 563-577.
- Chkir, Imed Eddine and Jean-Claude Cosset, 2001, Diversification strategy and capital structure of multinational corporations, *Journal of Multinational Financial Management* 11, 17-37.
- Doukas, J. A. and Christos Pantzalis, 2003, Geographic diversification and agency costs of debt of multinational firms, *Journal of Corporate Finance* 9, 52-93.
- Eiteman, D. K., A.I. Stonehill and H.M. Moffett, 1998, *Multinational Business Finance*, 8<sup>th</sup> edition, Addison-Wesley, 583-606.
- Fatemi, Ali M., 1988, The effect of international diversification on corporate financing policy, *Journal of Business Research* 16, 17-30.
- Frank, Murray Z. and Vidhan K. Goyal, 2009, Capital Structure Decisions: Which Factors are Reliably Important?, *Financial Management* 38, 1-37.
- Gaver, Jennifer J. and Kenneth M. Gaver, 1993, Additional evidence on the association between the investment opportunity set and corporate financing, dividend, and compensation policies, *Journal of Accounting and Economics* 16, 125-160.
- Harris, Milton and Artur Raviv, 1991, The Theory of Capital Structure, *Journal of Finance* 46, 1693-1715.
- Homaifar, Ghassem A., Joachim Zietz and Omar Benkato, 1998, Determinants of capital structure in multinational and domestic corporations, *Economia Internazionale* 51, 189-210.
- Jodice, D., 1985, *Political Risk Assessment: An Annotated Biography*, Westport: Greenwood Press.
- Krainer, R., 1972, *The Valuation and Financing of the Multinational Firm: Reply*, *Kyklos*, 25, 553-626.
- Kim, Wi Saeng and Esmeralda O. Lyn, 1985, Excess Market Value, the Multinational Corporation, and Tobin's q-Ratio, *Journal of International Business Studies* 17, 119-125.

Lee, Kwang Chul and Chuck C. Y. Kwok, 1988, Multinational Corporations vs Domestic Corporations: International Environmental Factors and Determinants of Capital Structure, *Journal of International Business Studies* 19, 195-217.

Martin, Anna D. and Laurence J. Mauer, 2004, Scale economies in hedging foreign exchange cash flow exposures, *Global Finance Journal* 15, 17-27.

Modigliani, Franco and Merton H. Miller, 1958, The cost of capital, corporation finance and the theory of investment, *American Economic Review* 53, 261-297.

Mittoo, Usha R. and Zhou Zang, 2008, The Capital Structure of multinational corporations: Canadian versus U.S. Evidence, *Journal of Corporate Finance* 14, 706-720.

Myers, Stewart, 1977, Determinants of corporate borrowing, *Journal of Financial Economics* 5, 146-175.

Myers, Stewart, 1984, The Capital Structure Puzzle, *The Journal of Finance* 39, 575-592.

Nance, Deana R., Jr. Clifford W. Smith and Charles W. Smithson, 1993, On the Determinants of Corporate Hedging, *The Journal of Finance* 48, 267-284.

Rajan, Raghuram G. and Luigi Zingales, 1995, What Do We Know about Capital Structure? Some evidence from International Data, *The Journal of Finance* 50, 1421-1460.

Shapiro, Allen C., 1978, Financial Structure and the cost of capital in the multinational corporation, *Journal of Financial and Quantitative Analysis* 13, 211-266.

Smith, Jr. Clifford W. and Roberto Stulz, 1985, The Determinants of Firms 'Hedging Policies', *Journal of Financial Economics* 26, 3-27.

Smith, Jr. Clifford W. and Ross L. Watts, 1992, The investment opportunity set and corporate financing, dividend, and compensation policies, *Journal of Financial Economics* 32, 263-292.

Singh, Manohar and Ali Nejadmalayeri, 2004, Internationalization, capital structure, and cost of capital: evidence from French corporations, *Journal of Multinational Financial Management* 14, 153-169.

Stulz, René M., 1990, Managerial discretion and optimal financing policies, *Journal of Financial Economics* 26, 3-27.

Titman, Sheridan and Roberto Wessels, 1988, The Determinants of Capital Structure Choice, *The Journal of Finance* 43, 1-19